

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1.-10. (canceled).

11. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,

said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions,

wherein the bands are less than about 10 percent of center wavelength at full width half maximum.

12. (original) Selective reflective optical apparatus in accordance with claim 11 wherein the bands are less than 6 percent of center wavelength.

13. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,

said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions,

wherein said structure comprises a multilayer interference coating which reflects energy in said narrow bands while transmitting energy in the regions therebetween,

wherein said multilayer interference coating comprises a plurality of layers of alternating low index-of-refraction and high index-of-refraction material.

14. (original) Selective reflective optical apparatus in accordance with claim 13 wherein said low index-of-refraction material is SiO_2 and said high index-of-refraction materials are from the group consisting of TiO_2 , Ta_2O_5 and Nb_2O_5 .

15. (original) Selective reflective optical apparatus in accordance with claim 13 wherein the thicknesses of the low index-of-refraction material layers are approximately 100 nm and 70 nm for the high index-of-refraction material.

16. (currently amended) Selective reflective optical apparatus in accordance with claim 13 wherein said multilayer interference coating has ~~approximately~~ substantially 5 to 50 layers to form a coating of thickness in the range of ~~approximately~~ substantially 1000 to 6000[[0]] nm coating to reflect energy in said narrow bands while transmitting energy in the regions therebetween.

17.-23. (canceled).

24. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,

said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions,

wherein said projection screen is constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions and significantly attenuate reflection of incident optical energy in bands of optical wavelength regions outside the frequency ranges contained in said predetermined number of narrow bands,

wherein said projection screen structure comprises a multilayer interference coating of primarily transmissive layers which reflects energy in said predetermined number of narrow

bands of optical wavelength regions while transmitting energy outside the frequency ranges contained in said predetermined number of narrow bands of optical wavelength regions,

wherein said structure comprises a multiplicity of absorptive layers incorporated in said multilayer interference coating.

25. (canceled).

26. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,

said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions,

wherein said projection screen is constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions and significantly attenuate reflection of incident optical energy in bands of optical wavelength regions outside the frequency ranges contained in said predetermined number of narrow bands,

wherein said projection screen structure comprises a multilayer interference coating of primarily transmissive layers which reflects energy in said predetermined number of narrow bands of optical wavelength regions while transmitting energy outside the frequency ranges contained in said predetermined number of narrow bands of optical wavelength regions,

wherein said multilayer interference coating is constructed and arranged with relatively low reflection in the green optical wavelength for coaction with a source of projected light that radiates an excess of green light compared to other regions of the visible optical spectrum.

27.-28. (canceled).

29. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,

said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions,

a source of optical energy constructed and arranged to emit only light of wavelengths in said predetermined number of narrow bands of optical wavelength regions,

and further comprising,

a room embracing said source of optical energy and said projection screen having ambient lighting containing a wide band of optical wavelengths but having reduced energy in said predetermined number of narrow bands of optical energy,

said projection screen constructed and arranged to significantly attenuate energy incident from said ambient lighting within said wide band of optical wavelengths but not in said predetermined number of narrow bands of optical wavelength regions.

30-40. (cancelled)

41. (original) In a screen comprised of plastic film materials and at least one adhesive, wherein some of the said plastic film materials comprise frequency selective filters, at least one adhesive and plastic film material in front of said frequency selective filters that have a property from the group of (a) low birefringence and (b) substantially uniform birefringence and oriented for maximum transmission of light of one of a desired polarization.

42. - 50. (canceled)

51. (previously amended) Selective reflective optical apparatus in accordance with claim 59 wherein said coating is deposited bidirectionally in pairs of high and low index-of-refraction materials.

52. (previously amended) Selective reflective optical apparatus in accordance with claim 60 wherein said source of projected light comprises a digital-micromirror-device projector providing three primary colors and a polarization recovery system constructed and arranged to provide high light throughput while making the three primary colors polarized.

53. (previously amended) Selective reflective optical apparatus in accordance with claim 60 wherein said source of projected light comprises a liquid-crystal-on-silicon projector providing three primary colors having the same polarization.

54.-56. (canceled).

57. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,
said projection screen having structure constructed and arranged to selectively reflect only incident optical,
wherein said structure comprises a multilayer interference coating which reflects energy in said narrow bands while transmitting energy in the regions therebetween,
wherein said coating is nonuniform constructed and arranged so that each position on the screen has a preshifted coating that compensates for the angle of incidence of light at that position.

58. (canceled)

59. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,
said projection screen having structure constructed and arranged to selectively reflect only incident optical,
wherein said structure comprises a multilayer interference coating which reflects energy in said narrow bands while transmitting energy in the regions therebetween,
wherein said coating comprises an interference coating on a second substrate that was transferred from a first substrate.

60. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,
said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength

regions,

and further comprising,

a source of projected light constructed and arranged to illuminate said projection screen,
said source providing projected light in frequency regions corresponding to said bands to effect high reflection of light from said projection screen incident from said source of projected light while absorbing high amounts of ambient light,

wherein said ambient light is filtered to remove light in said predetermined number of narrow bands.

61. (original) Selective reflective optical apparatus in accordance with claim 60 wherein said source of ambient light comprises a filtered bulb.

62. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,

said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions, and

a source of projected light constructed and arranged to illuminate said projection screen,
said source providing projected light in frequency regions corresponding to said bands to effect high reflection of light from said projection screen incident from said source of projected light while absorbing high amounts of ambient light,

wherein said source of projected light is constructed and arranged to also furnish ambient light having spectral components outside said predetermined number of narrow bands.

63. - 64. (canceled).

65. (previously amended) Selective reflective optical apparatus comprising,
a projection screen,

said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength

regions,

a source of projected light constructed and arranged to illuminate said projection screen,
said source providing projected light in frequency regions corresponding to said bands to effect high reflection of light from said projection screen incident from said source of projected light while absorbing high amounts of ambient light,

wherein the reflectiveness of said narrow bands varies from band to band to compensate for varying output levels of said source of projected light in said corresponding frequency regions.

66. (original) Optical apparatus comprising,

a projection screen,

a source of optical energy constructed and arranged to project light energy upon said screen in a predetermined number of narrow bands of optical wavelength regions,

a source of ambient light characterized by a wide band of optical wavelengths but having reduced energy in said predetermined number of narrow bands of optical energy,

said screen constructed and arranged to significantly attenuate incident ambient light in said wide band of optical wavelengths but not in said predetermined number of narrow bands of optical wavelength regions.

67. (previously amended) Selective reflective optical apparatus comprising,

a projection screen,

said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions,

wherein said projection screen structure is constructed and arranged to change the spectral shape of the reflected light to keep the proper ambient color,

wherein said change is a reduction of the green reflection.

68. (previously amended) Selective reflective optical apparatus comprising,

a projection screen,

said projection screen having structure constructed and arranged to selectively reflect only incident optical energy of a predetermined number of narrow bands of optical wavelength regions,

and further comprising,

a source of projected light constructed and arranged to illuminate said projection screen,

said source providing projected light in frequency regions corresponding to said bands to effect high reflection of light from said projection screen incident from said source of projected light while absorbing high amounts of ambient light,

wherein said ambient light is filtered to remove light in said predetermined number of narrow bands,

wherein window tinting or a film attached to or placed in front of windows provides said filtered ambient light.

69. - 70. (canceled)

71. (currently amended) Selective reflective optical apparatus in accordance with claim[[s]] 24[[3]] wherein said interference filter is constructed and arranged with relatively low reflection in the far red spectral region.

72. (currently amended) Selective reflective optical apparatus in accordance with claim [[1]] 24, wherein said projection screen is constructed and arranged to reduce the reflection in the range of 660 to 750 nm.

73. - 74. (canceled)